

What Is Claimed Is:

Sub B2

1. A liquid crystal display including liquid crystal pixel cells arranged at each intersection between a plurality of gate lines and a plurality of data lines, comprising:

- a thin film transistor associated with each pixel cell;
- a storage capacitor; and
- a smectic liquid crystal between an upper substrate and a lower substrate, wherein the smectic liquid crystal has spontaneous polarization in a range of approximately $2\text{nC}/\text{cm}^2$ to $100\text{nC}/\text{cm}^2$ and a storage capacitance is in a range of approximately $1\text{nF}/\text{cm}^2$ to $13\text{nF}/\text{cm}^2$ for optimizing transmittance depending on the spontaneous polarization of the smectic liquid crystal.

2. The liquid crystal display of Claim 1, wherein the spontaneous polarization is in a range of approximately $2\text{nC}/\text{cm}^2$ to $10\text{nC}/\text{cm}^2$ and the storage capacitance is in a range of approximately $1\text{nF}/\text{cm}^2$ to $4.5\text{nF}/\text{cm}^2$.

3. The liquid crystal display of Claim 1, wherein the spontaneous polarization is in a range of approximately $10\text{nC}/\text{cm}^2$ to $70\text{nC}/\text{cm}^2$ and the storage capacitance is in a range of approximately $4\text{nF}/\text{cm}^2$ to $7\text{nF}/\text{cm}^2$.

Sub B3

4. The liquid crystal display of Claim 1, wherein the spontaneous polarization is in a range of approximately $70\text{nC}/\text{cm}^2$ to $100\text{nC}/\text{cm}^2$ and the storage capacitance is in a range of approximately $5\text{nF}/\text{cm}^2$ to $13\text{nF}/\text{cm}^2$.